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Reteaching: For use after Lesson 3.2, Algebra 2 with Trigonometry

Algebra 2 GHP
Unit #11
WS #2

Relations and Functions

■ **Concept:** Determining the domain and range of relations and functions

Remember: A relation is a set of ordered pairs. The domain of a relation is the set of all first coordinates of the ordered pairs. The range is the set of all second coordinates of the ordered pairs.

Example: State the domain and range of the following relation:

$\{(-3, 0), (-2, 2), (1, 5), (1, 6), (6, 0), (6, 1)\}$.

The domain is $\{-3, -2, 1, 6\}$.

The range is $\{0, 1, 2, 5, 6\}$.

State the domain and range of each relation.

1. $\{(4, 2), (5, 3), (6, 4), (7, 5), (8, 6)\}$ _____

2. $\{(-1, 0), (-1, 1), (-1, 2), (-1, -1), (-1, 3)\}$ _____

3. $\{(2, 2), (2, 3), (3, 1), (3, 4), (4, 1), (4, 4)\}$ _____

■ **Concept:** Determining whether a relation is a function

Remember: A relation is a set of ordered pairs. A function is a set of ordered pairs so that for each x -value there is exactly one y -value.

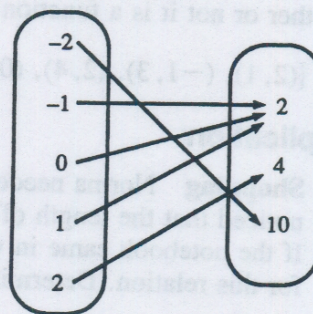
Example: Determine if the relation $\{(-2, 10), (-1, 2), (0, 2), (1, 2), (2, 4)\}$ is a function.

Write the domain and the range for the relation.

The domain is $\{-2, -1, 0, 1, 2\}$. The range is $\{10, 2, 4\}$.

Make a mapping diagram. Write the elements of the domain in one circular region and the elements of the range in another.

Draw arrows to show how each element is mapped to another. Since each element of the domain maps onto one element of the range, the relation is a function.



Is each set of ordered pairs a function?

4. $\{(-2, -2), (-1, -1), (0, 0), (1, 1), (2, 2)\}$ _____

5. $\{(1, 4), (1, 5), (5, 1)\}$ _____